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ABSTRACT

Presented is an operational, comprehensive plan for measuring a Competency Based Teacher Education (CBTE) program. This assessment and evaluation system is a part of the competency-based program of Vocational and Applied Arts Education (VAE). Its seven major goals are: (1) to provide objective public measures for each performance objective in the program; (2) to provide for field assessment of intern teachers and pre-interns using classroom teachers as the primary evaluators; (3) to identify student skill deficiencies prior to instruction; (4) to provide means by which students can be exempt from unneeded instruction; (5) to provide means by which student reactions can be systematically gathered for use in revising instruction and instructional materials; (6) to provide means by which data can be collected to give direction for program revision and improvement; and (7) to determine the effects of the program upon the graduates' teaching and upon their pupils. The assessment and evaluation system is perceived as the most crucial aspect of CBTE. Procedures for determining test reliability, test item validity instruments, a pre-intern field experience check list, data collection instruments and reports available from the Assessment Data Bank are appended. (Author/BJG)

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A COMPREHENSIVE ASSESSMENT AND EVALUATION MODEL FOR CBTE PROGRAMS

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INTRODUCTION

> The overriding problem [with CBTE] before which the others pale to insignificance is that of the adequacy of measurement instruments and procedures.[1]
>
> I assume that even small progress made in assessing teacher competence will be of great improvement over our present evaluations.[2]

These two positions reflect the basic philosophy upon which the assessment and evaluation model described in this paper has been built and is now presented. It is true that the problem of measurement in CBTE programs is critical; it creates a vulnerability--philosophically, politically and practically. The instruments used in competency-based programs, however, are no worse than those used in traditional programs which currently are the basis for certification recommendations. All efforts which are put into devising valid, reliable assessment and evaluation systems are steps leading toward valid teacher training programs. The description here is of one approach; clearly, it is not a perfect one, but it is a working model.

This assessment and evaluation system is a part of the competency-based program of Vocational and Applied Arts Education (VAE). This is a unit in the Division of Teacher

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[1] Elam, Stanley, Performance-Based Teacher Education: The State of the Art, Performance-Based Teacher Education Series: No. 1 (Washington, D. C.: American Association of Colleges for Teacher Education, 1971), p. 21.

[2] McDonald, Frederick J., "The State of the Art in Performance Assessment of Teaching Competence," Assessment (Albany, New York: Multi-State Consortium on Performance-Based Teacher Education, 1974), p. 21.

Education in the College of Education at Wayne State University in Detroit, Michigan. The VAE undergraduate program includes approximately 500 students on the active role. This CBTE program[3] was put into operation in 1972 after a year of development. However, the program revision and growth still continues. A major concern and focal point of activity is the matter of student competency assessment as a part of both campus and field experiences and program evaluation. This model will encompass:

1. the design and use of instruments to assess student performance
2. efforts to establish reliability and validity of these instruments
3. assessment data collection and resulting reports
4. formative program evaluation techniques
5. program follow-up design.

Assumptions

The assessment and evaluation model rests upon some key assumptions:

1. The ultimate validity of a CBTE program must be determined by identifying the effects of the VAE graduates upon their own pupils.
2. The use of the systems approach will lead to continually-improved programs and program components.

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[3]For a complete program description, see "A Working Model of a Competency-Based Teacher Education Program" by Fred S. Cook, Charlotte Neuhauser and Rita C. Richey, a paper presented at the annual meeting of the American Educational Research Association, New Orleans, February, 1973.

3. Comprehensive research will be needed to identify effective teacher competencies. Pending this data, teacher education programs should be based upon local data from the professors, former graduates, cooperating classroom teachers, the community and current students.

4. Classroom teachers should be involved in the development and implementation of the assessment and evaluation part of a CBTE program, just as they are involved in other facets.

Goals of the Assessment and Evaluation System

The major objectives of a specific assessment and evaluation system reflect, of course, the design of the total program, as well as the priorities of the developers. In this particular case, there are seven major goals:

1. To provide objective public measures for each performance objective in the program.

2. To provide for field assessment of intern teachers and pre-interns using classroom teachers as the primary evaluators.

3. To identify student skill deficiencies prior to instruction.

4. To provide means by which students can exempt from unneeded instruction.

5. To provide means by which student reactions can be systematically gathered for use in revising instruction and instructional materials.

6. To provide means by which data can be collected to give direction for program revision and improvement.

7. To determine the effects of the program upon the graduates' teaching and upon their pupils.

DESIGNING AND IMPLEMENTING OBJECTIVE-REFERENCED TEST ITEMS

General Assessment Framework

In the VAE competency-based program there are three key testing points:

1. The exemption test is given prior to instruction in a specific course. This test provides the means by which each student can demonstrate his mastery of each terminal performance objective for that phase of the program.[4]

2. The prerequisite skills test is given prior to instruction in each course. Each test requires students to demonstrate their mastery of the skills which are necessary to be successful for that particular phase.

3. The exit test is given after instruction and, like the exemption test, is the vehicle by which students demonstrate their mastery of that phase's terminal performance objectives.

This three-faceted approach to student assessment is followed in each phase of the program, as well as in any instructional modules which might be used. The only deviation to this is in the intern teaching exemption test. While it is possible to take this test, it is not administered on a regular basis because of two constraints: the length of time to administer the exam (ca. 4 weeks) and the need for a cooperating field site. Typically, a person who would be approved to take the test would be an individual who is currently teaching under an emergency or special certificate.

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[4]The VAE Pre-certification Program consists of four phases taken in sequence: 1) Introduction to Education (4 qtr. hrs.), 2) Foundations of Education (Educational Psychology and Analysis of Teaching combined for 8 qtr. hrs.), 3) Methods of Teaching (8 qtr. hrs.), the Intern Teaching block (16 qtr. hrs. of student teaching, a 4-hour seminar and 4 hours of Educational Philosophy).

Principles of Item Construction and Use

The following principles of test item construction apply to items used for any of the three assessment purposes. These principles have evolved out of experience, conviction and practical constraints. The major principles are:

1. All items will be objective-referenced.
2. All items must be approved by the faculty before use.
3. The development processes must allow for immediate use and continued refinement.
4. The administration of the tests, data collection, reliability and validity analysis must be possible to complete with average university resources and expertise.
5. Test items may and should utilize a variety of modes. Acceptable modes include paper and pencil, product evaluation, performance demonstration, etc. The goal is for performance and product items.
6. All test items, regardless of mode, should conform to one format.
7. All items throughout the program on a similar topic should have a congruity in terms of criteria and approach.
8. If the test construction process shows a weak performance objective (e.g., inadequate criteria, lack of congruity with similar performance objectives), the performance objective should be changed before the test item is finalized.
9. The performance items must be possible to administer within a public school during normal school hours, normal class periods or in a simulated laboratory setting.
10. The equipment needed to administer the tests must be confined to those items normally available in an urban high school.

11. The test items must be written so that they can be administered by a classroom teacher with a Master's degree, an average of five years of teaching experience and three hours of training provided by the department OR a college supervisor who has had three hours of departmental training.

12. All test items are public documents. (See page 10 for further discussion.)

These principles provide for implementation in the public schools, construction without relying on unrealistic resources, standardized format and faculty approval. Not following any one of these guidelines will probably lead to problems--problems with your public school constituency, problems with your faculty who must use the tests and problems with your students who must understand the tests.

Test Item Format

A test item has been described by Hively as "a set of instructions telling how to (1) set up a specific problem for someone, (2) record his response, and (3) score the results."[5] The format of test items in a competency-based curriculum presents more of a problem than that of the format of a traditional test. First, there are an abundance of performance items, as opposed to typical multiple-choice items. Such performance, to as great an extent as possible, should be off-campus in the public schools. Being an actual demonstration of skill, the scoring facets may well be quite complicated with, perhaps, several persons involved.

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[5]Hively, Wells, "Domain-Reference Testing," mimeographed paper, February, 1973, p. 6.

All of these factors present complications in how the item should actually be written on the paper.

Next, the test item must be constructed in such a manner as to facilitate the understanding of all processes--the performance expected, the scoring and precise criteria which will be applied, as well as any preparations which must be made in advance. Students and test administrators alike can become completely frustrated when given a stack of papers seemingly without end and a maze of directions.[6]

FIGURE 1 (see next two pages) is a test item used in the intern teaching phase of the VAE Pre-certification Program.[7] You can examine the format and identify the following components:

1. The related performance objective

2. The directions to the intern
   This includes a brief description of the evaluation process and, if appropriate, a list of steps the student must follow to complete the test item.

3. The directions to the evaluator
   This includes any steps necessary to prepare for the measurement, as well as the precise evaluation procedures. The most important part of this section, however, is the exact scoring guidelines. These are the specific questions one would ask oneself as all facets of the performance are examined. With each question are the specific criteria one must meet to pass that particular component of the item.

4. The indication of mastery
   This includes a verbal summary of the criteria for passing and a spot to check if the item was passed or if the student must recycle.

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[6]Rita C. Richey, Designing a CBTE Instructional System: A VAE Case History, Competency-Based Teacher Education Series No. 3 (Detroit, Michigan: Vocational and Applied Arts Education, 1974), pp. 18-19.

[7]The VAE Intern Teaching Examination was developed originally by Effective Feedback, Inc. in consultation with the VAE faculty and project staff. The entire exam has subsequently been revised by Kathleen M. Herschelmann after extensive try-out and input from the users.

FIGURE 1

Objective 09808
Title: Gives directions
Communication--Blue

Intern_____ 8
Evaluator (Coop.T.)_____
Date(s) Passed_____

09808 In both verbal and written communications the intern will give clear and concise directions to students so that they can take appropriate action. Clear and concise directions involve:

a. Speaking clearly enough for all students to hear when giving verbal directions.
b. Making written directions as brief as possible.
c. Planning and sequencing directions before giving them.
d. Evaluating the resultant smoothness with which students act after receiving directions.

To the Intern: Evaluation of this objective will be based on oral and written instructions you give to students.

I. Oral Directions

No advance preparation is required for this portion of the objective. The cooperating teacher will determine by going over your lesson plans which session he would like to observe you in giving oral directions to your students.

II. Written Directions

1. Invite your cooperating teacher 2-3 days before you would like him to evaluate you on giving written directions.

2. Present a lesson of no more than one class period in length in which you give written directions to students. The directions should require students to act; e.g., how to change a typewriter ribbon, how to replace a blade in a saw, or how to thread a sewing machine.

3. Give students a chance to ask questions after they receive the written directions and before they begin work.

4. Collect (if a physical product resulted) or tabulate (if a visible action resulted) after the students have had time to follow your directions. Give these results to your cooperating teacher.

To the Evaluator: Be in the classroom when the intern tells you he will be doing Part II. Written Directions. You may evaluate Part I. Oral Directions at anytime you wish noting from the lesson plans the intern turns in to you exactly when he plans to give oral directions. Evaluate by criteria below:

Number of students in class:	Verbal		Written	
	Yes	No	Yes	No
A. Giving Directions				
1. The intern can be heard clearly by those for whom the directions are intended? Criteria: Evaluator can hear and no students ask intern to speak louder.	___	___		
2. The directions are as brief as possible? Criteria: for a 30-minute lesson, verbal directions should not exceed 5 minutes. Written directions should not be more than 2 pages in length. Also, intern shouldn't be sidetracked into other subjects.				

	Verbal Yes	Verbal No	Written Yes	Written No
3. The directions are sequenced? Criterion: The directions specify the sequential steps to be taken in completing the task.	___	___	___	___
4. Before the intern began giving directions verbally, the intern had all the students' attention? Criterion: None of the students for whom the directions are intended are talking to each other or working on other tasks.	___	___		
5. The students respond by doing what the directions call for? Criterion: At least all but one begins to do what the directions ask.	___	___	___	___

All yes's are required for a pass on Part A.....PASS____ REDO____ A.

B. Students' Questions After Directions

Tally the number of questions according to the following categories which the students ask after the directions are given.

	Verbal	Written
1. Number of questions raised by students which call for a verbatim repeat; e.g., "What did you say?"	_____	
2. Number of questions raised by students which signal a lack of understanding; e.g., "I don't know what to do."	_____	_____
3. Questions that call for further information which according to the evaluator's judgment should have been included in the directions; e.g., "How much time do we have?"	_____	_____
4. All other questions. Questions which according to the evaluator's judgment did not need to be included in the directions that signal special interest on the part of students; e.g., "Can we type more than one letter if we want?" Questions which are unrelated to the directions given; e.g., "May I have a pass to see my counselor?"	(Tally of questions) (on item #4 does (not count towards (objective pass.	
	_____	_____

Less than a total of 3 questions from Part B 1-3 and the rest of the students on task while intern answers those questions are required for a pass on Part B.....PASS____REDO____B.

These are complex test items, necessary to measure a complex performance. This format has evolved out of the examination try-out. The greatest challenge was to include the necessary detail and yet keep each item to one sheet (front and back). Earlier versions were longer, and the sheer size of the examination created many anxieties in both students and faculty.

Two other points concerning format should be noted. First, every test item in the entire VAE Pre-certification Program is a public document. (This is a radical departure from traditional programs and even from some competency-based programs.) The test item format reflects this principle. The student is aware of the exact directions and scoring procedures being used by the evaluator. And, likewise, the evaluator knows the student has this information. These details of the assessment process are viewed as further amplification of the criteria in the performance objective.

The public nature of the test items presents few problems. The goal, in most CBTE programs, is to write terminal performance objectives which demand higher-level performances (e.g., actual classroom demonstration of a skill), rather than simple recall. It is primarily with recall items that one worries about students knowing the test. Still, one could argue that with some recall items (definitions, for example) the exact answer can be memorized, since that is the learning task desired. Other recall items require a

sample response which represents the larger domain of knowledge. In these cases the precise questions are not provided in advance but only the characteristics of the questions. This situation occurs only a few times in the VAE Pre-certification Program.

The second comment relevant to format concerns the question of fairness to students. In a fairly large program, one is confronted with a variety of evaluators--more than one professor teaching a course, many cooperating teachers in the public schools. It is important that all students' performances be measured consistently. Writing the test items in a detailed, standard manner provide some assurance that most students are being assessed objectively.

Establishing Reliability

Proponents of CBTE are being asked to prove that their certification recommendations are based upon valid, reliable measures of competencies. This is, at times, frustrating since these same, legitimate demands are seldom, if ever, made upon the traditional teacher educators. Nevertheless, the request is appropriate. The processes will be described here which are being used to determine the reliability of the VAE Pre-certification test items. Again, the intern teaching examination will be used as representative of the other work which is still in progress.

The state of the art of determining the reliability and validity of objective-referenced test items is in its infancy. Authorities are just now experimenting with various techniques.

The general process by which the intern teaching test's reliability was determined as follows:

1. Identify the ability of the measures to produce the same assessment among raters of either a teaching performance or a product which is used in teaching (inter-rater reliability).

2. Identify the capability of specific criteria questions used to determine adequacy of performance to produce the same answers among raters (inter-rater reliability).

3. Identify the ability of measures to produce the same results on several performances by a given student when growth is held constant (trial-by-trial agreement).[8]

This approach to reliability is particularly relevant to the tests written in the specific format chosen for the VAE examinations.

The test was administered to all 43 of the intern teachers during the spring of 1973, and a total of 1688 observations were made to test the reliability of the 24 intern teaching test items. Each item for each student was rated by at least two persons. Raters were classified as either "prime" or "informed." Prime raters were either college supervisors or cooperating classroom teachers. Informed raters were all VAE faculty or staff. If faculty, they were not in the specific

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[8]Herschelmann, Kathleen M., "Determining the Reliability of a Criterion Referenced Intern Teaching Examination," unpublished doctoral dissertation, Wayne State University, 1973, p. 4.

curriculum area of the student; if staff, they were project research assistants. All raters were trained in the exact process to be followed. All data collection took place within one month.[9]

Reliability was set at 84% for inter-rater agreement on tests and one disagreement or less for inter-rater agreement on items within tests. Reliability was set at 90% for trial-by-trial agreements.[10]

A process such as this can answer several questions for a faculty:

1. Which tests are, in fact, reliable?
2. Which tests need to be changed?

The general try-out to get the reliability data leads to a wealth of additional data from the constituency which leads to recommendations for change. These recommendations may well relate to topics such as:

1. Format
2. Understanding of criteria
3. Common error points
4. Data collection procedures
5. Recycling situations

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[9]The exact design of this study was developed by Jason Millman of Cornell University. The details of this procedure are found in the Herschelmann dissertation. However, in Appendix A of this paper, sections of the dissertation relevant to the design are reproduced.

[10]Herschelmann, p. 46.

6. Techniques to insure consistent evaluation
7. Changes in performance objectives
8. Handling irrelevant situations which occur during the student's performance
9. Identifying relevant performance conditions which are not reflected on the test
10. Scheduling of the test[11]

Data on topics such as the above can well prove to be just as important as the reliability data itself. Any subsequent study of this type should provide for the collection of such feedback for this gives the staff the direction for change. The reliability results simply tell you what must be changed.

Establishing Validity

The question of validity again creates a methodological dilemma. Ultimately, the validity of the test items stems from the validity of the required performance within the teacher training program. This validity should relate to the performance's effect upon pupils. Research must supply this answer. In a more limited context, the validity relates to the match of the item with the performance objective and the match of the item with previous instruction. This was the basic process used in the VAE program.

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[11]Herschelmann, pp. 77-79.

The VAE validity study involved gathering judgmental data from three types of persons--the intern teachers, the cooperating classroom teachers and the college supervisors. The cooperating classroom teachers and college supervisors were asked three questions in relation to the test for each performance objective:

1. Do teachers need the skill(s) demanded by this objective?
2. Can your intern perform the skill(s) needed for mastery of this objective outside of the test situation?
3. Is the level of difficulty required by this objective appropriate for what is really needed in teaching?

The intern teachers were asked:

1. Were you taught, in your education courses, the skills needed for mastery of this objective?

An item was determined valid if 75% of the respondents answered "yes" to each question.[12]

More detailed feedback was gathered by asking intern teachers to fill out an instrument in the Intern Teaching Seminar. The cooperating teachers and college supervisors were interviewed using a structured interview form.[13]

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[12]Effective Feedback Associates, "Validity Analysis and RevisionsSuggestions for Intern Teaching Exam," Unpublished Report, June 30, 1973. Effective Feedback designed and implemented the entire validity study.

[13]See Appendix B for copies of these two instruments.

Pre-Intern Field Assessment

Student assessment in a CBTE program is often more complex than in a traditional program; there are more evaluators, more settings and often more complex performances. Turner has cited three types of contexts for training and assessing student performances--the symbolic context (i.e., the college classroom), the simulated context (i.e., laboratory settings using audio-visual aids) and the "work" context (the public school classroom).[14] This section deals with assessment in the work context.

The previous examples have dealt with the VAE Intern Teaching Examination. This takes place primarily (but not totally) in the public school setting. In this situation the cooperating classroom teacher is viewed as a part of the university staff, has regular contact with the university supervisor and works with the student on a daily basis. Hopefully, this teacher also has had a long-term contact with the department. Because of this close relationship, the assessment procedures are identical to those followed on campus.

The real issues regarding assessment in the "work" context seem to relate to the measurement of pre-intern teaching field experiences. The design of this part of CBTE programs vary widely. The VAE design is that of a field-oriented program

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[14]Turner, Richard L., "Evaluating the Validity of Assessed Performances: Methodological Problems," a paper presented at the annual meeting of the American Educational Research Association, New Orleans, 1973, p. 2.

(as opposed to a field-based program). This means students have early field experiences which are carefully integrated into the campus instruction, but they are on a limited basis--three to four full days or six to seven half days per quarter. The cooperating classroom teachers may or may not be involved in the intern teaching program at that time. Nonetheless, their involvement in these early phases is more limited than that of the intern teaching supervisor.

The classroom teacher still has the sign-off on the acceptability of student activity in the field in spite of this limited time. The products of these experiences are typically incorporated into a total campus test item.

The procedures are less rigorous than those of a full-scale test item. Appendix C is an example of a Pre-intern Field Experience Checklist.[15] This document includes:

1. A statement of each field activity
2. The required evidence of completion
3. Supplementary lists providing additional criteria detail
4. Space for teacher sign-off

These documents have been developed jointly with representative classroom teachers and are supported as evidence of a student's field work. They should be viewed as a part of the overall VAE assessment and evaluation system. The field activities are key learning experiences which demand a type of quality control.

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[15] McMillan, Marian, "The VAE Pre-Intern Field Experiences: A Model for Competency-Based Teacher Education Field-Oriented Programs," (Detroit, Michigan: Vocational and Applied Arts Education, 1974), pp. 14-18.

ASSESSMENT DATA MANAGEMENT

Data Collection

The assessment procedures described generate a great deal of data. In the VAE program the instructional system is supported by a computerized management information system. The primary goal of the instructional management subsystem "is to eliminate as much manual record keeping as possible on the part of the faculty but at the same time provide information on the status of each student as he progresses through the program."[16]

Faculty submit student test data in one of two ways--the Objective Record Form (a computerized grade book) or on an Optical Mark Recognition Card (OMR).[17] All intern teaching data is turned in on the OMR Card.

Reports Available

There are a variety of reports which are available to VAE faculty as a result of the test data submitted. These include:

1. Status Reports with:
   a. a list of objectives for a class
   b. students passing objectives
   c. date passed
   d. number of recycles
2. Histograms including:
   a. number of people passing the exemption and exit tests
   b. minutes to complete an objective
   c. recycles per objective

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[16] Neuhauser, Charlotte L., "The Design and Implementation of a Management Information System to Facilitate the Functioning of a CBTE Program," Paper presented at the annual meeting of the American Educational Research Association, Chicago, April, 1974, p. 13.

[17] See Appendix B for a sample of each of these two data-collecting devices.

3. Curriculum Status Reports with:

   a. a list of students in curriculum area
   b. all objectives completed
   c. date of completion
   d. objectives not completed
   e. recycles
   f. flagged student problems

4. Student Status Letter includes:

   a. all objectives to date
   b. objectives completed
   c. date of completion
   d. special message indicating next steps[18]

PROGRAM EVALUATION

Formative Program Evaluation

To this point, the model described has dealt with student assessment, but there is another major part--program evaluation. This is the attempt to collect and use data for the revision of instructional materials, processes and content. Within this framework, there is one major feature of the formative evaluation phase which has been systematically used--the Student Content Evaluation.

Throughout each quarter, students answer the questions listed in FIGURE 2 for each and every performance objective they complete. This data is then keypunched from the form and entered into the VAE computerized data bank. The resulting Content Evaluation Report provides information for revision of performance objectives[19] and teaching methods.

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[18] Neuhauser, pp. 16-17. Samples of each of these reports are taken from this paper and found here in Appendix C.

[19] Neuhauser, p. 20.

FIGURE 2

CONTENT EVALUATION QUESTIONNAIRE

1. Did prerequisite courses, if any, give you an adequate foundation in meeting the objectives of this course?

   Yes No No Prerequisite Requirements

2. Was adequate time, materials and facilities provided for you to achieve this objective?

   Yes No

3. How meaningful were the assignments in relation to the mastery of this objective?

Assignments were helpful in attaining mastery	Assignments helped some but could be improved	Could have mastered objective without completing assignments	Uncertain

4. How appropriate were the methods (kits, films, etc.) used in conveying the instruction to master this objective?

Appropriate-- I liked them	Were OK but I prefer other methods	Were Inappropriate	Uncertain

5. Did the exit test accurately measure the behavior sought in this objective?

   Yes No

6. Do you feel you have really mastered this objective?

Yes, feel very competent	Yes, but need some reinforcement	Yes, but need much more instruction	Did not pass exit test

7. In hindsight do you think you could have passed the exemption test on this objective at the beginning of the quarter without receiving instruction?

   Yes No

8. Do you feel this objective is essential to your teaching preparation?

   Yes No

A growing bank of data of this type creates an invaluable base for decision making. The decisions related to delivery systems are made by individual professors in the VAE program design; however, if the professor chooses, questions such as the following could be answered using this data:

1. Should the pacing of instruction be altered?
2. Should new instructional materials be identified?
3. Did students feel prepared for the instruction in this class?

The faculty can use the data to make performance objective revisions. Revisions can become apparent from this data resulting from topics such as:

1. Student feeling of irrelevance
2. General student knowledge before instruction
3. Need to provide a firmer base of prerequisite skills

Summative Program Evaluation

The design of the follow-up procedures for the VAE Precertification Program is still in progress. This is a longitudinal development process that has three key phases:

1. Follow-up instrument design and use
2. Observation of graduates
3. Testing pupils of graduates

First, is the design of a follow-up instrument. This phase in itself has a longitudinal development plan. The first step is to interview graduates (using trained interviewers)

using an open-ended instrument. The major topics covered in this interview are:

1. Student perceptions of the program (including reactions to the design, goals and activities)
2. Impact of the program on student attitudes toward teaching as a career
3. Impact of the program on their own teaching

The initial data drawn from these interviews will provide the basis for the gradual revision of the instrument. After use with three to four graduating classes, it is planned to convert the instrument into one suitable for use as a mailed instrument. At this point, the follow-up could become a regular part of the program, existing with little special support work.

However, this type of follow-up gathers only secondary evidence. In order to actually measure the continuing effect of a program, one should do two things:

1. Observe the graduate in a teaching situation.
2. Measure the effects of the graduate's teaching on pupil behaviors.

While this has not been attempted to date, instruments and procedures are being devised which will facilitate this phase of the follow-up.

Basically the plan involves testing groups of students before and after a semester or a year's work. Between testing periods the teachers are systematically observed. The

observation system will be a modification of the APPLE System (Anecdotal Processing to Promote the Learning Experience). This is a system developed over the past five years by Nadine Lambert and her associates at the University of California at Berkeley.[20] It is not a category system, and it approaches the task by simply recording the observed behavior of the teacher and selected target students representative of the class. Subsequent encoding of the data categorizes the observations using a lexicon developed out of observations in that particular subject matter area.

These observations can achieve two goals: First, they can be used to determine if the teacher is, in fact, using those competencies which were a part of the VAE Pre-certification Program. Second, they become a part of a detailed research design, which when connected with the student pre- and post-test scores, can identify those teacher behaviors which do affect pupil performance.[21]

Not until this process is completed will one really have a complete assessment and evaluation model. This summative evaluation facet should take approximately three years to complete.

---

[20]Lambert, Nadine and Hartsough, Carolyn S., "Instructions for APPLE Observers in the Beginning Teacher Evaluation Study," (Berkeley: University of California, 1974).

[21]For a complete description of this research design see "A Proposal to Determine the Effects of Teacher Performance on Pupil Growth" by Fred S. Cook, Rita C. Richey, Vivian Howell, Patricia Elias and Frederick J. McDonald, (Detroit, Michigan: Wayne State University, 1974).

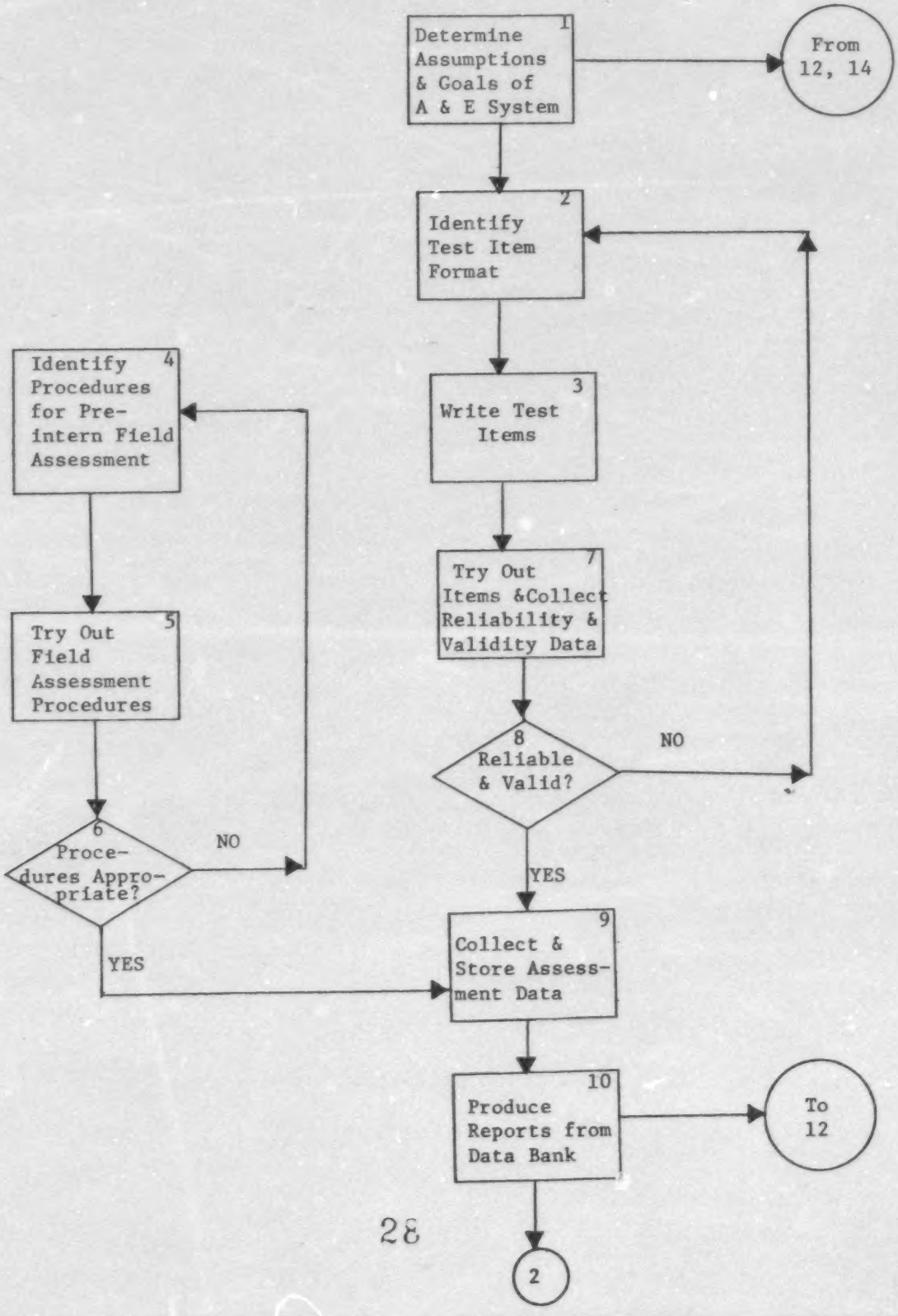
One of the great advantages of this latter research approach to summative evaluation is that it will also produce data which can allow one to legitimately make hypotheses regarding which competencies are valid (validity being affecting pupil growth). In this way, the data base out of an assessment and evaluation model will provide input for the competency identification phase of designing CBTE programs.

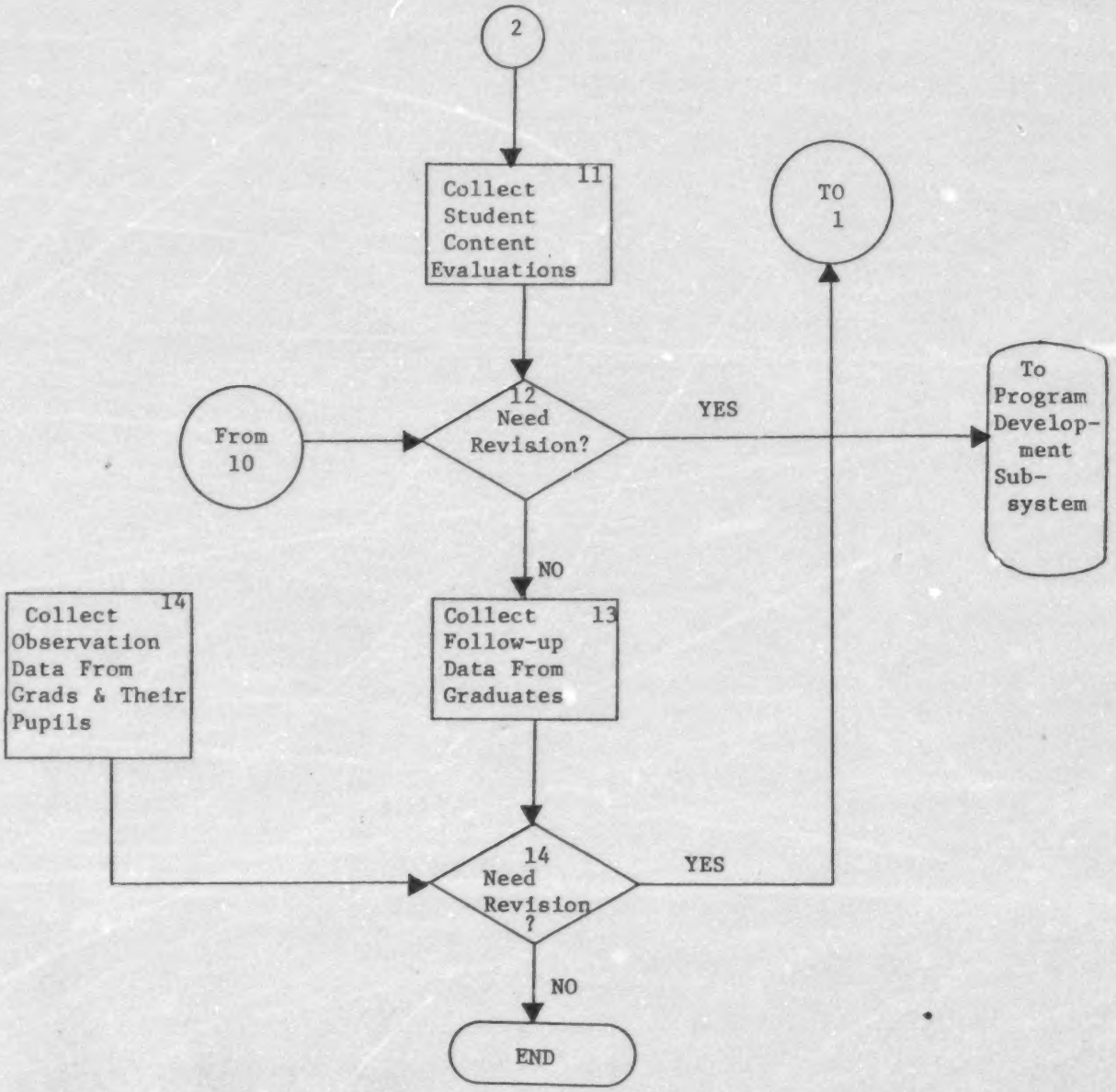
SUMMARY

This is a comprehensive plan, the majority of which is operational. It is, however, still operational in a context where, if CBTE were to fail, it would be because of attacks on the assessment system. The assessment and evaluation system (along with the initial competency identification) is the most crucial aspect of CBTE; it is the most vulnerable; it needs the most supporters of CBTE.

The following flowchart is a graphic summary of the system as a whole. See FIGURE 3 on the next page.

FIGURE 3
A FLOWCHART OF
THE VAE ASSESSMENT AND EVALUATION SYSTEM
OPERATING PROCEDURES





The VAE Assessment and Evaluation System is a comprehensive plan which is designed to meet goals relating to campus and field assessment of students prior to, and after, instruction, as well as systematically collecting and using data to make short-term and long-range revision in the program based upon the performance of graduates and their pupils.

APPENDIX A

PROCEDURES FOR DETERMINING TEST RELIABILITY

Determining the Research Design

In determining the research design to be used with the first administration and evaluation of the VAE CRITE, the major consideration was to develop a design which would lend itself to a criterion referenced examination. As Jason Millman of Cornell University had worked with James Popham of UCLA in developing strategies by which criterion referenced examinations could be produced, administered, and evaluated, the investigator asked Millman's assistance in determining the research design for this study.

Millman suggested that a way of determining the reliability (generalizability)[1] of the 24 tests in the VAE CRITE would be to use both--

1. rater agreement (two or more raters evaluating a live performance simultaneously or a written performance without inter-rater consultation)

2. trial-by-trial agreement (one rater evaluating a test on two occasions in a short time period holding "growth" constant by not giving the intern feedback until completion of the second trial

The 24 tests were split into 3 groups of 8 tests each. Test group selection was based on time involved in taking the tests and whether the tests would be evaluated by two raters at one session or by one rater in a trial-by-trial situation. This was in accordance with Millman's suggestion:

---

[1]Text prepared by Jason Millman in consulting session with investigator, Cornell University, Ithica, New York, April 23, 1973, p. 2.

> ...divide the 24 tasks into three groups of 8 each--calling them Group A, Group B, Group C. Remember, A, B, C refer to collection of tests and not to groups of interns. I would suggest that the grouping of the 24 tasks NOT be random, but instead be as follows:
>
> Find the time-consuming ones and don't overload one of the groups--split up.
>
> Find the tasks you want to do rater agreement on and split up. Same for trial-by-trial.[2]

Rater Agreement

Twenty-one of the 24 tests were submitted to rater agreement design* A college supervisor and a cooperating teacher could jointly evaluate an intern on a test or a set of tests. A second alternative provided that one of these prime raters could join with an informed rater to do an evaluation. The research design assigned specific prime raters and informed raters to each intern for each objective or each set of objectives. In the event a prime rater needed a substitute for his rating partner, an informed rater was sent in as the substitute so the evaluation could be performed.

Trial-by-Trial Agreement

Three of the 24 tests were subjected to trial-by-trial evaluation. The three tests were chosen because the cooperating teacher could evaluate the tests in two of the intern's classes

---

[2] Ibid., p. 2.

*two or more raters evaluating a live performance simultaneously or a written performance without inter-rater consultation

holding "growth" constant as the intern would not receive feedback until both situations had been evaluated. These tests were:

09210 Manages supplies and equipment
09211 Organizes routine procedures
09219 Responds to evaluation

These three objectives were among the tests in Group C.

Raters Training Session

The cooperating teachers, college supervisors, informed raters, and the rest of the VAE faculty were invited to partake in the raters training session held on May 5, 1973.

The full-day session had as its major objectives:

1. train each rater to administer and evaluate the tests for which he was accountable,
2. provide all VAE faculty attending the experience in organization, administration, and evaluation of the VAE Criterion Referenced Intern Teaching Examination,
3. provide time for all raters to set up their schedules with their rating partners so all rating dates would be definite by the end of the day.

Rater Training

Each rater was given a binder which held:

1. a copy of the day's agenda,
2. a complete set of the tests he was to administer and evaluate,
3. directions for scoring the examination,

4. a calendar of suggested dates when the intern might hand in his tests,

5. a suggested combination of objectives to enable the rater to evaluate the objectives in fewer classroom visits,

6. an evaluation time sheet giving approximate time for administering and evaluating each objective, (Each rater was also asked to add his actual rating time.)

7. an evaluation schedule listing all raters, interns, and the objectives assigned to each,

8. a supervisor's time sheet listing approximate number of visits and total time to complete all evaluation visits,

9. an informed raters' assignment sheet listing all interns and objectives for which they were accountable,

10. a tax form to be filled out and submitted at the end of the day to receive the training stipend.

Directions and Purpose:

VAE is asking you to evaluate objectives-based measures administered during your intern teaching assignment. Your comments will influence any revisions which must be made before Fall, 1973. Answer every question. Thank you for your assistance.

---

1. Objective ☐☐☐☐☐☐ (1 2 3 4 5 6) Objective Title _____

2. Intern Assignment (check one): High School ☐ (7) Junior High ☐ (8) Other (specify) _____ ☐ (9)

3. Name the courses you are teaching: _____ ☐ (10) _____ ☐ (12)
   _____ ☐ (11) _____ ☐ (13)

4. Were you taught, in your education courses, the skills needed for mastery of this objective?
   a. Yes ☐ (14) Somewhat ☐ (14) No ☐ (14)
   b. WHERE? 5191 ☐ (15) 5925 (or 3731 & 3015) ☐ (16) Methods Courses ☐ (17) Other _____ ☐ (18)

5. How often have you used the skill needed for mastery of this objective during Intern Teaching? (aside from this situation)
   Often ☐ (19) Sometimes ☐ (19) Never ☐ (19)
   Comment:

6. Are there other facets of this skill which should have been measured? Yes ☐ (20) No ☐ (20)
   Explain:

7. Are there any undesirable features of this measure? Yes ☐ (21) No ☐ (21)
   Explain:

8. What are the best features of this measure?

Date _____

Interviewer _____

Interview Questions For Cooperating Teachers/
Seminar Leaders/College Supervisors

1. Name _____ School _____

2. Subjects to which the Cooperating Teacher is assigned

   Business Education _____ Industrial Art _____

   Family Life _____ Other (please specify) _____

3. Number and name of objective being discussed

   # Name

   _____ _____

4. Did the Intern master this objective? Yes _____ No _____

5. Can your Intern perform the skill(s) needed for mastery of this objective outside of the test situation?

   Definitely _____ Unsure _____ Not at all _____

   Comment:

6. Do teachers need the skill(s) demanded by this objective?

   Yes _____ Somewhat _____ No _____

   Comment:

7. Is the level of difficulty required by this objective appropriate for what is really needed in teaching?

Yes _____ Somewhat _____ No _____

Comment:

8. What should be added to the requirements? That is, are there any skills like this one that teachers should display in order to teach?

9. Are there any undesirable features of this measurement item?

10. What is the best feature of the measurement item?

TO BE ASKED AT END OF INTERVIEW ONLY:

11. Do the total measures (all that you evaluated) cover enough to convince you whether or not the Intern has the desired skill to be a teacher?

Yes _____ Somewhat _____ No _____

Comment:

APPENDIX C

Vocational and Applied Arts Education
Pre-Intern Field Experiences
Phase I - Check List

Directions: When designated experiences have been completed in the school, the pre-intern will record the date in the appropriate space, and the classroom teacher will indicate approval by placing his or her initials in the appropriate space.

Field Experience	Date Completed	Classroom Teacher Initials
1. Interview a cooperative education coordinator, placement counselor, teacher in job preparation program, or a person giving leadership to career education in the school.		
a. What is the overall plan for career preparation and placement of students?		
b. How does the career education program operate in the school?		
c. What is the "chain of command" of people responsible for career education in the school district?		
d. What plans are in the offing for changes in occupational preparation?		
Evidence of completion:		
a. A list of the system-wide "chain of command" for career education		
b. A written summary of the career education activities being implemented or planned by each career education person in the school		
2. Interview a classroom teacher to obtain an overview of the tasks and responsibilities required of a teacher. (See#3.)		
Evidence of Completion:		
A brief description of specific responsibilities of a classroom teacher (classroom responsibilities, contractual responsibilities, personal commitment). (See supplement for guidelines.).		

Phase I, Page 2.

Field Experience

3. Collect and summarize information relating to an in-school program or course using four of the following sources:

   a. Review a curriculum guide for a specific program (i.e., Business and Distributive Education, Child Growth and Development, Drafting, Electronics)
   b. Interview VAE curriculum coordinator or department head
   c. Interview teacher (See #2.)
   d. Interview students for reactions to the program
   e. Attendance at a curriculum planning committee meeting
   f. Observe at least one class session of a course being reviewed

Evidence of Completion:

Appendix material to be included in report in VAE 5191 in connection with the evaluation. (See supplement for guidelines.) . . . . . _____ _____
Date Completed | Classroom Teacher Initials

4. Participate in a minimum of five of the following classroom activities:

	Check List
a. Assisting on projects	_____
b. Escorting students to lunchroom for a given class	_____
c. Answering questions	_____
d. Correcting papers	_____
e. Checking supplies in and out	_____
f. Acting as a small group leader	_____
g. Assisting in a demonstration	_____
h. Introducing audio-visual materials	_____
i. Taking roll	_____
j. Others	_____

Evidence of Completion:

A check list identifying the experiences in which the pre-intern participated . . . . . _____ _____
Date Completed | Classroom Teacher Initials

Phase I, Page 3.

Field Experience

5. (Optional) Arrange for a field trip with the cooperative education coordinator to visit a work station.

Evidence of Completion:

A brief written overview of the field experience . . . . . _____ _____
Date Completed | Classroom Teacher Initials

Has the pre-intern made himself convenient to your schedule? _____ Yes _____ No

General Comments:

Approximate time for Phase I: 6 half days or 3 full days

Supplement to
Field Experience Requirements
Phase I

Guidelines for Item #2.

1. Classroom responsibilities
   a. records keeping
   b. management of supplies
   c. order
   d. clean up
   e. safety precautions
   f. others

2. Contractual responsibilities
   a. time schedules
   b. attendance at meetings (type and frequence of meetings)
   c. curriculum development
   d. others

3. Personal commitment
   a. individual attention to students
   b. adequate arrangements for make-up work
   c. attendance at school functions
   d. community activity
   e. parent contact
   f. positive comments to individuals
   g. others

Guidelines for Item #3.

1. Review of curriculum guides
   a. Does it give an overview of the purpose of the guide?
   b. Does it explain how the guide is to be used?
   c. Does it present an overview of subject content?
   d. Does it include the component parts for writing performance objectives?
      (1) Do objectives make provisions for occupational preparation?
      (2) Does it reflect provision for progression from unit to unit?
      (3) Are objectives stated so students and parents can understand them?
      (4) Are objectives realistic in terms of achievement?
   e. Learning experiences
      (1) Does it reflect a variety of experiences?
      (2) Does it present experiences appropriate for age level?
      (3) Does it reflect current societal needs?
      (4) Does it include experiences for evaluation?
      (5) Does it allow for self-evaluation by students?
      (6) Does it include current emphasis on career education?

Supplement, page 2.

f. Summary: Personal reactions
(1) Did this help you with an overview of the course, units, or curriculum area?

2. Interview with curriculum coordinator or department head:

a. Does your school have an advisory committee to make recommendations to the Vocational Department? If "yes," what areas are represented from business school, administration, etc.?
b. How often does the department make a "self-evaluation" of the program, the instruction, the facilities?
c. How are the present curriculum programs up-dated and changed to include current economic, business and technical practices?
d. Does the entire department work together on program development and improvement? How?
e. How do you evaluate individual teachers?

3. Interview with students:

a. What basic skills do you feel you have acquired from this course in _____?
b. What were some of the resources you used in the course (filmstrips, films, newspapers, periodicals, reference books, etc.)?
c. How were the current social, economic, or technical changes in society interwoven in the course?
d. In what way were students involved in the planning of units? In evaluating units or the total course?
e. What were some of the different learning experiences you had in the course? Which did you feel were the most stimulating? Worthwhile?

HISTORY REPORT FOR 5195

THESE STUDENTS ARE ENROLLED IN 5195 THIS QUARTER. THE OBJECTIVES LISTED ARE THOSE COVERED IN COURSES WHICH ARE PREREQUISITE TO 5195.

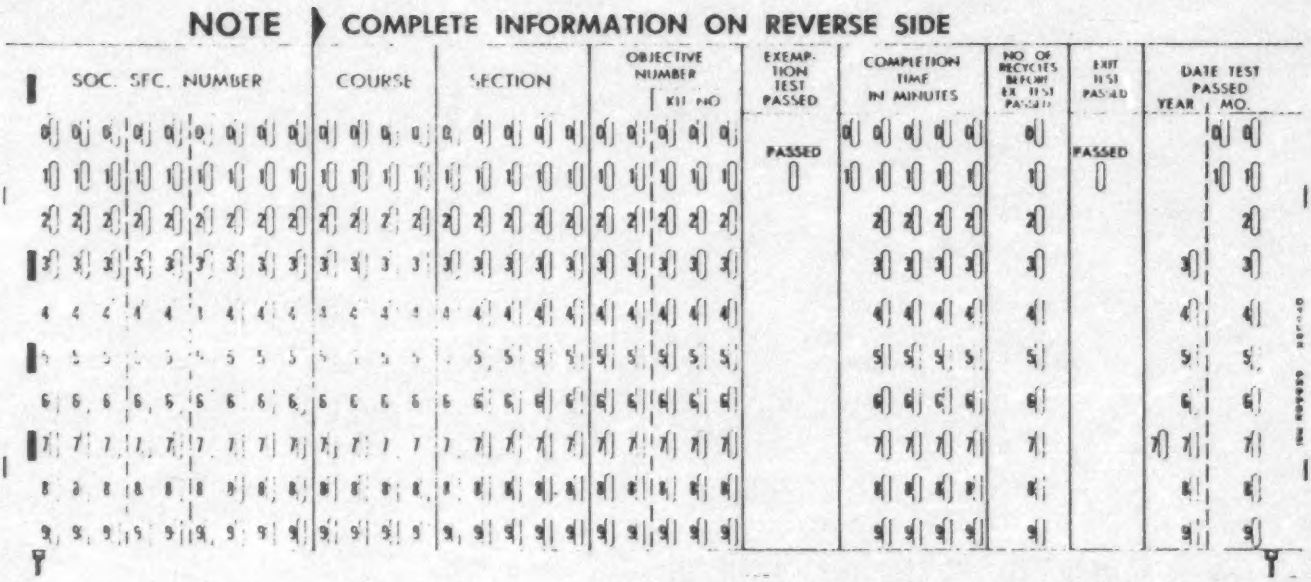
365367882 JACKSON, DELORES

		PREREQUISITE TO 5195	NUMBER OF RECYCLES	DATE PASSED
01001	DEFINE AND GIVE EXAMPLES OF CBE TERMS	•		7307
01002	DEFINE PERFORMANCE OBJECTIVE	•		7307
01003	WRITE PERFORMANCE OBJECTIVES	•		7307
01004	TASK ANALYSIS OF ENTRY LEVEL JOB	•		7307
01005	ANALYZE CONTENT OF COURSE	•	1	7307
01006	DEMONSTRATE PRODUCTION SKILLS	•		7308
01007	OPERATE INSTRUCTIONAL EQUIPMENT	•		7308
01008	DESCRIBE TEACHER-PERFORMED TASKS			7307
01009	COMPARE TEACHER TASKS WITH COMPETENCIES			7307
01010	DESCRIBE COMMITMENT TO TEACHING			7307
01011	DEVELOP POSITION STATEMENT ON COMMITMENT		1	7308
01012	DEMONSTRATE WRITTEN COMMUNICATION SKILLS			7307
01013	PARTICIPATE IN PROFESSIONAL ORGANIZATIONS			7307

365565813 LUBER, MAGGIE

01001	DEFINE AND GIVE EXAMPLES OF CBE TERMS	•		7307
01002	DEFINE PERFORMANCE OBJECTIVE	•		7307
01003	WRITE PERFORMANCE OBJECTIVES	•	1	7308
01004	TASK ANALYSIS OF ENTRY LEVEL JOB	•		7307
01005	ANALYZE CONTENT OF COURSE	•	2	
01006	DEMONSTRATE PRODUCTION SKILLS	•		7307
01007	OPERATE INSTRUCTIONAL EQUIPMENT	•		7307
01008	DESCRIBE TEACHER-PERFORMED TASKS	•		7308
01009	COMPARE TEACHER TASKS WITH COMPETENCIES			7308
01010	DESCRIBE COMMITMENT TO TEACHING			7307
01011	DEVELOP POSITION STATEMENT ON COMMITMENT			7307
01012	DEMONSTRATE WRITTEN COMMUNICATION SKILLS			7307
01013	PARTICIPATE IN PROFESSIONAL ORGANIZATIONS			7307

Appendix D


NOTE ▶ COMPLETE INFORMATION ON REVERSE SIDE
SOC. SEC. NUMBER
COURSE
SECTION
OBJECTIVE NUMBER
KIT NO
EXEMPTION TEST PASSED
PASSED
COMPLETION TIME IN MINUTES
NO. OF RECYCLES BEFORE EXIT TEST PASSED
EXIT TEST PASSED
PASSED
DATE TEST PASSED
YEAR
MO.
DO NOT FOLD OR BEND

HISTORY REPORT FOR 5195

THESE STUDENTS ARE ENROLLED IN 5195 THIS QUARTER. THE OBJECTIVES LISTED ARE THOSE COVERED IN COURSES WHICH ARE PREREQUISITE TO 5195.

		PREREQUISITE TO 5195	NUMBER OF RECYCLES	DATE PASSED
365367882	JACKSON, DELORES			
01001	DEFINE AND GIVE EXAMPLES OF CBE TERMS	•		7307
01002	DEFINE PERFORMANCE OBJECTIVE	•		7307
01003	WRITE PERFORMANCE OBJECTIVES	•		7307
01004	TASK ANALYSIS OF ENTRY LEVEL JOB	•		7307
01005	ANALYZE CONTENT OF COURSE	•	1	7307
01006	DEMONSTRATE PRODUCTION SKILLS	•		7308
01007	OPERATE INSTRUCTIONAL EQUIPMENT	•		7308
01008	DESCRIBE TEACHER-PERFORMED TASKS	•		7307
01009	COMPARE TEACHER TASKS WITH COMPETENCIES			7307
01010	DESCRIBE COMMITMENT TO TEACHING			7307
01011	DEVELOP POSITION STATEMENT ON COMMITMENT			7307
01012	DEMONSTRATE WRITTEN COMMUNICATION SKILLS		1	7308
01013	PARTICIPATE IN PROFESSIONAL ORGANIZATIONS			7307
365565813	LUBER, MAGGIE			
01001	DEFINE AND GIVE EXAMPLES OF CBE TERMS	•		7307
01002	DEFINE PERFORMANCE OBJECTIVE	•		7307
01003	WRITE PERFORMANCE OBJECTIVES	•	1	7308
01004	TASK ANALYSIS OF ENTRY LEVEL JOB	•		7307
01005	ANALYZE CONTENT OF COURSE	•	1	
01006	DEMONSTRATE PRODUCTION SKILLS	•		7307
01007	OPERATE INSTRUCTIONAL EQUIPMENT	•		7307
01008	DESCRIBE TEACHER-PERFORMED TASKS	•		7308
01009	COMPARE TEACHER TASKS WITH COMPETENCIES			7308
01010	DESCRIBE COMMITMENT TO TEACHING			7307
01011	DEVELOP POSITION STATEMENT ON COMMITMENT			7307
01012	DEMONSTRATE WRITTEN COMMUNICATION SKILLS			7307
01013	PARTICIPATE IN PROFESSIONAL ORGANIZATIONS			7307

COURSE STATUS REPORT FOR 4143
QUARTER: 734

		OBJECTIVE NOT PASSED	NUMBER OF RECYCLES	DATE PASSED
365583080	MULLER, CONSTANCE			
06500	INTERVIEWS PARENTS, PUPILS, SCHOOL PERSONNEL			7304
06501	MATCH NEEDS WITH LEARNING EXPERIENCES		1	7306
06502	DISCUSS SOCIETAL CHANGES WITH VAE			7305
06503	TEACH LESSON			7305
06504	IDENTIFY MANAGEMENT PROCEDURES IN SCHOOL			7305
06505	DESCRIBE CLASSROOM MANAGEMENT PROCEDURES			7306
06506	PARTICIPATE IN PROFESSIONAL MEETINGS	•		
366402169	COLE, JOHNNIE			
06500	INTERVIEWS PARENTS, PUPILS, SCHOOL PERSONNEL			7304
06501	MATCH NEEDS WITH LEARNING EXPERIENCES	•		
06502	DISCUSS SOCIETAL CHANGES WITH VAE			7304
06503	TEACH LESSON		2	7307
06504	IDENTIFY MANAGEMENT PROCEDURES IN SCHOOL			7305
06505	DESCRIBE CLASSROOM MANAGEMENT PROCEDURES	•		
06506	PARTICIPATE IN PROFESSIONAL MEETINGS	•		

VOCATIONAL & APPLIED ARTS EDUC.
WAYNE STATE UNIVERSITY
421 EDUCATION BUILDING
DETROIT, MI 48202

100160642
RONAI, KURT
13021 ALBANY
OAK PARK MICH 48237

BELOW IS A LIST OF THE OBJECTIVES WHICH ACCORDING TO OUR RECORDS YOU WERE SCHEDULED TO HAVE COMPLETED BY NOW. WILL YOU PLEASE CHECK IT FOR ACCURACY. IF IT IS INCORRECT, PLEASE CALL ME AT 577-1801.

OBJECTIVE		COURSE	DATE PASSED
01001	DEFINE AND GIVE EXAMPLES OF CUE TERMS	5191	7307
01002	DEFINE PERFORMANCE OBJECTIVE	5191	7307
01003	WRITE PERFORMANCE OBJECTIVES	5191	7307
01004	TASK ANALYSIS OF ENTRY LEVEL JOB	5191	
01005	ANALYZE CONTENT OF COURSE	5191	
01006	DEMONSTRATE PRODUCTION SKILLS	5191	7308
01007	OPERATE INSTRUCTIONAL EQUIPMENT	5191	7306
01008	DESCRIBE TEACHER-PERFORMED TASKS	5191	7307
01009	COMPARE TEACHER TASKS WITH COMPETENCIES	5191	7307
01010	DESCRIBE COMMITMENT TO TEACHING	5191	7307
01011	DEVELOP POSITION STATEMENT ON COMMITMENT	5191	7307
01012	DEMONSTRATE WRITTEN COMMUNICATION SKILLS	5191	7307
01013	PARTICIPATE IN PROFESSIONAL ORGANIZATIONS	5191	

I NOTICE YOU HAVE NOT COMPLETED ALL THE OBJECTIVES FOR WHICH YOU HAVE BEEN SCHEDULED. THESE MUST BE PASSED BEFORE YOU WILL BE CERTIFIED. PLEASE TALK WITH PROFESSOR FRANK LANHAM ABOUT COMPLETING THESE OBJECTIVES.

VAE RECORDS SECRETARY

CURRICULUM AREA STATUS REPORT
INDUSTRIAL EDUCATION
QUARTER ENDING: 736

THIS IS A LIST OF ALL UNDERGRADUATES IN THE MASTER STUDENT FILE IN THE ABOVE CURRICULUM AREA AND THE HISTORY OF EACH FOR OBJECTIVE COMPLETION. THOSE PEOPLE WITH ONE STAR HAVE NOT COMPLETED ALL OBJECTIVES FOR WHICH THEY HAVE ENROLLED, OR THEY ARE TAKING COURSES OUT OF SEQUENCE. THOSE WITH TWO STARS HAVE NOT COMPLETED ANY OBJECTIVES FOR TWO QUARTERS.

OBJECTIVE	COURSE	RECYCLES	DATE PASSED	OBJECTIVE	COURSE	RECYCLES	DATE PASSED	OBJECTIVE	COURSE	RECYCLES	DATE PASSED
* 191349654 MOORE, GERALD											
01001	5191		7211	01002	5191	1	7211	01003	5191		7211
01004	5191		7211	01005	5191		7210	01006	5191	2	7210
01007	5191	1	7211	01008	5191		7210	01009	5191	1	7211
01010	5191		7211	01011	5191	1	7211	01012	5191		7210
01013	5191		7211	02100	5195		7302	02103	5195	1	7302
02104	5195	2	7304	02105	5195		7303	02106	5195		7303
02107	5195		7304	02109	5195		7303	02110	5195	2	7303
02111	5195	3	7304	02112	5195		7302	02113	5195		7303
02114	5195	1	7304	02115	5195	2	7303	02116	5195		7303
02117	5195		7303	02118	5195		7303	02119	5195	2	7304
02120	5195		7304	02121	5195	1	7304	02122	5195		7304
02123	5195	1	7304	02124	5195	1	7304	02125	5195		7304
02126	5195		7304	02127	5195	1	7304	02128	5195		7304
02129	5195		7304	02130	5195		7304	02131	5195	2	7304
02132	5195	1	7304	07600	5187		7304	07601	5187		7304
07602	5187	1	7305	07603	5187		7305	07604	5187		7305
07605	5187		7305	07606	5187		7306	07607	5187		7305
07608	5187		7306	07609	5187		7306	07610	5187		7305
07611	5187		7306	07612	5187		7306				
* 232649261 MAYSE, DAVID											
01001	5191		7307	01002	5191	1	7307	01003	5191		7307
01004	5191	2	7308	01005	5191		7307	01006	5191		7307
01007	5191			01008	5191		7307	01009	5191		
01010	5191	3	7308	01011	5191	3	7308	01012	5191		
01013	5191	3									